

AMENDMENTS TO THE DRAWINGS

The attached sheet (Sheet 5 of 6) of drawings includes changes to Fig. 6C. The sheet, which includes Figs. 6A – 6C, replaces the original Sheet 5. A description of the changes is provided in the Remarks.

REMARKS

Claims 1-3 are pending in the present application. The Examiner rejected the pending claims in a final Office Action dated June 11, 2008. Applicants submit herewith a request for continued examination pursuant to 37 C.F.R. § 1.114 with this Amendment as the accompanying submission. With entry of this Amendment, Applicants amend claims 1-3. Reexamination and reconsideration are respectfully requested.

A. Claim 1 is patentable over Ota.

The Examiner rejected claim 1 as being anticipated under 35 U.S.C. § 102(b) by Ota et al. (U.S. Patent Pub. No. 2002/0188364 A1). Applicants respectfully submit that the Examiner has failed to appreciate that Ota does not disclose bus selecting controls and channel-ON controls having a display such that the operation of a bus selecting control beyond a predetermined time period affects the displays of the channel-ON controls in the recited manner of claim 1. Accordingly, the rejection is respectfully traversed.

1. The claimed invention

Claim 1 is directed to a digital mixer apparatus. The apparatus comprises a plurality of input channels, each arranged to receive a sound signal. Applicants have amended claim 1 to recite that the apparatus further comprises a “first bus” and a plurality of “second” buses.

The apparatus of claim 1 further comprises a plurality of channel-ON controls in corresponding relation to the plurality of input channels. Applicants have amended claim 1 to recite that each of the channel-ON controls is for setting “a signal ON/OFF state” whether or not the sound signal is passed through each of the input channels corresponding to each of the channel-ON controls and “inputs to the first bus.” Importantly, claim 1 further recites that each of the channel-ON controls has a display that displays a signal ON/OFF state: “each of said channel-ON controls having a display that displays the signal ON/OFF state of the corresponding input channel.”

In addition to the channel-ON controls, claim 1 recites a plurality of bus selecting controls. Applicants have amended claim 1 to recite that the bus selecting controls are provided in one-to-one corresponding relation to the plurality of “second” buses and that each of the bus selecting controls “selecting a corresponding one of said second buses in response to operation thereof.”

The apparatus of claim 1 further comprises a “send ON/OFF section” for permitting delivery of sound signals from the input channels to the “second buses.” Specifically, claim 1 recites a second ON/OFF section that sets “send ON/OFF states” to permit or not “delivery of the sound signals from said input channels to said second buses for each of combinations of said input channels and said second buses.”

What is important to appreciate is that the operation of a bus selecting control beyond a predetermined time period causes the displays of the channel-ON controls to display the send ON/OFF states of the delivery of sound signals from the input channels to the second bus corresponding to the operated bus selecting control. Specifically, claim 1 recites: “a control section that, while any one of said plurality of bus selecting controls is being operated beyond a predetermined time period, causes the displays of said channel-ON controls to display the send ON/OFF states, in said send ON/OFF section, of the delivery of the sound signals from the input channels, corresponding to said channel-ON controls, to the second bus corresponding to the one bus selecting control.” That is, the channel-ON controls – which display a “signal” ON/OFF states indicating whether sound signals are passed through the input channels corresponding to the channel-ON controls and input to the “first bus” – are caused to display the “send” ON/OFF states indicating the delivery of sound signals from the input channels to the “second bus” corresponding to the bus selecting control when that bus selecting control has been operated for beyond a predetermined time. Thus, the present invention allows a user to be able to quickly determine the state of delivery of sound signals from input channels to a second bus.

2. The deficiencies of Ota

In contrast, Ota merely discloses displaying signal ON/OFF states via its channel-ON keys and fails to disclose or suggest displaying a value of any other parameter than the signal ON/OFF states.

Specifically, Ota discloses ON keys 233 corresponding to mixer input channels as shown in Fig. 2. An ON key 233 is used for “switching between on/off of the mixer input channel” as described in paragraph 0040. Ota further describes that the ON keys 233 can emit light depending on whether they are selected or not at paragraph 0040. Thus, the Examiner considers ON keys 233 as meeting the recited channel-ON controls of claim 1. The Examiner apparently considers Fig. 5 as disclosing bus selecting controls. Fig. 5 allows a user designate a mixer input channel to be output to a given bus via a graphical user interface. For example, for the output of channel 1, the user can select bus 2 by pressing the displayed square with a “2” for channel 1 as described in paragraph 0061.

Even if one accepts for the sake of argument that the displayed square with a “2” is a “bus selecting control,” there is not disclosure or suggestion in Ota that the operation of the displayed square beyond a predetermined time causes the *display of the ON keys 233* to display the send ON/OFF states of the delivery of sound signals from the input channels to bus “2.”

All that the operation of the displayed square does is indicate that the output of channel 1 has been assigned. This is clear from the last sentence of paragraph 0061 of Ota: “If the numerals . . . are displayed in reverse color, it means the corresponding output is assigned.” There is no disclosure or suggestion in Ota that the operation of the displayed square does anything more. Accordingly, Ota fails to disclose or suggest “a control section that, while any *one of said plurality of bus selecting controls is being operated* beyond a predetermined time period, *causes the displays of said channel-ON controls to display the send ON/OFF states*, in said send ON/OFF section, *of the delivery of the sound signals from the input channels*, corresponding to said channel-ON controls, *to the second bus corresponding to the one bus selecting control.*”

In the Office Action, the Examiner appears to have misunderstood the recited control section. At page 2, he indicates that the ON/OFF state set by a square in Fig. 5 “is utilized through the operation of Ota et al.” Applicants respectfully submit that this statement fails to address what is being claimed. The operation of the displayed square establishes an output assignment of a channel to a bus, which certainly will be reflected in Ota’s operation. However, claim 1 recites that the operation of the bus selecting control causes the displays of the channel-ON controls to display the send ON/OFF states as described above, and that is not disclosed or suggested at all in Ota.

Accordingly, Applicants respectfully submit that claim 1 is not anticipated by Ota.

B. Claim 2 is patentable over Ota.

The Examiner also rejected claim 2 as being anticipated by Ota. The rejection is respectfully traversed.

1. The claimed invention

Claim 2 has been amended in a similar manner to claim 1. Claim 2 differs with respect to claim 1 in its recitation of the control section. When one of the bus selecting controls is operated beyond a predetermined time period *and* one of the channel-ON controls is operated, then the control section changes the send ON/OFF state of the delivery of the sound signal from the input channel, corresponding to the operated channel-ON control, to the second bus corresponding to operated bus selecting control.

Specifically, claim 2 recites: “a control section that, while any one of said plurality of bus selecting controls is being operated beyond a predetermined time period, changes, in response to operation of any one of said channel-ON controls, the send ON/OFF state, in said send ON/OFF section, of the delivery of the sound signal from the input channel, corresponding to the one channel-ON control, to the second bus corresponding to the one bus selecting control.”

2. The deficiencies of Ota

In contrast, Ota fails to disclose or suggest the above recitation. As discussed above, the Examiner apparently considers a displayed square of Fig. 5 as meeting a bus selecting control and an ON key 233 as meeting the recited channel-ON control. However, there is no disclosure or suggestion at all in Ota about the operation of these elements in conjunction in the manner claimed in claim 2. Ota merely discloses that the signal ON/OFF state is changed in response to the operation of any one of the ON keys 233. That is the sole operation of ON key 233 as Ota makes clear: "An ON key 233 is used for switching between on/off of the mixer input channel." (Paragraph 0040.) There is no disclosure or suggestion that the operation of such an ON key 233 for a channel in conjunction with the operation of a displayed square in Fig. 5 beyond a predetermined duration of time changes the send ON/OFF state of the delivery of the sound signal for that channel to a second bus corresponding to the operated displayed square.

Accordingly, Applicants respectfully submit that claim 2 is not anticipated by Ota.

C. Claim 3 is patentable over Suyama.

The Examiner rejected claim 3 under § 102(b) as being anticipated by Suyama et al. (U.S. Patent Pub. No. 2002/0156547 A1). The rejection is respectfully traversed.

1. The claimed invention

Claim 3 is directed to a digital mixer apparatus. It recites a plurality of layer controls "provided in one-to-one corresponding relation to a plurality of layers provided by dividing said plurality of input channels into groups. . . ." The apparatus further comprises a plurality of bus selecting controls.

The apparatus further comprises a predetermined number of "first" level controls and a predetermined number of "second" level controls.

The first level controls are “are allocated the predetermined number of the input channels selected via said layer controls, each of said first level controls adjusting, in response to operation thereof, first delivery levels of the sound signals to be delivered from the input channels allocated thereto to said first bus.” This recitation has been amended to recite “first” delivery levels as shown in the quotation.

The second level controls are “are allocated the predetermined number of the input channels selected via said layer controls, each of said second level controls adjusting, in response to operation thereof, second delivery levels of the sound signals to be delivered from the input channels allocated thereto to said second bus selected via said bus selecting control.” This recitation has been amended to recite “second” delivery levels as shown in the quotation.

Once any one of the bus selecting controls is operated during operation of any one of the layer controls, second delivery levels of signals of a predetermined number of channels corresponding to the operated layer control to the selected second bus are copied from first delivery levels of signals of the predetermined number of channels to the first bus. Specifically, claim 3 recites: “a control section that, in response to operation of any one of said plurality of bus selecting controls during continued operation of any one of said plurality of layer controls, copies, the second delivery levels of the signals to be delivered from the predetermined number of the input channels to said second bus corresponding to the one bus selecting control, from the first delivery levels, set via said first level controls, of the signals to be delivered from the predetermined number of the input channels, corresponding to the one layer control, to said first bus.”

2. The deficiencies of Suyama

In contrast, Suyama fails to disclose the above recited control section. Fig. 5 of Suyama discloses an input channel section 401. The operator group 510 for a given channel includes a controller (rotary encoder) 511. Suyama further discloses an INC key 502 and a DEC key 503 “for selecting one channel of the MIX bus whose send level corresponds to the send level of the controller 511” at paragraph 0060. The Examiner contends that this disclosure meets the recited control section. Applicants respectfully disagree for at least two reasons.

First, it appears that the Examiner considers the send level in response to the operation of controller 511 as meeting the recited second delivery levels. Even so, there is no disclosure or suggestion that, for example, a volume set via fader 217 corresponding to the recited first delivery levels is copied to the send level. All that is disclosed is selecting one channel of the MIX bus whose send level corresponds to the send level of the controller 511.

Second, even if the copying was disclosed in Suyama (which Applicants do not concede), the recited control section recites that the copying is in response “operation of any one of the said plurality of bus selecting controls during continued operation of any one of said plurality of layer controls” If INC key 502 and DEC key 503 correspond to bus selecting controls as the Examiner contends, then the Examiner has failed to show that the copying is done when these keys 502 and 503 are operated during operation of one of a plurality of layer controls. In fact, paragraph 0060 makes clear the “copying” is done by simply operating INC key 502 and DEC key 503.

Accordingly, Applicants respectfully submit that claim 3 is not anticipated by Suyama.

D. Amendments to the Specification and Drawings

Applicants have amended the paragraph beginning at page 20, line 9 to describe the operation in a manner consistent with how the operation is described in the remainder of the specification. Specifically, the paragraph at page 20, line 9 addresses the OFF operation of an auxiliary bus selecting switch 203 when the operation mode is in the “mix-minus” mode. In such a situation, the mix-minus mode is canceled. At page 15, lines 17-22, the specification describes the following:

After that, once the human operator stops depressing the AUX bus selecting switch 203, the mix-minus mode is canceled, so that the ch_ON switches 212 of the individual input channels are restored to the original function of the CH_ON switches 402 of FIG. 4 and the LEDs attached to the ch_ON switches 212 of the individual input channels are brought back to the ON/OFF state display of the input channels.

The paragraph at page 20, line 9 has been amended to be consistent with the above description, *i.e.*, that the LEDs of the ch_ON switches 212 corresponding to the input channels reflect the current ON/OFF states of the input channels, when the mix minus mode is canceled.

Fig. 6C has been similarly amended. Specifically, box 633 has been changed in the following manner: Display ON/OFF ~~settings~~ states of signal delivery from input channels, via to AUX, via, LEDs of ch-ON SWs corre. to the input channels."


In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If, for any reason, the Examiner finds the application other than in condition for allowance, Applicants request that the Examiner contact the undersigned attorney at the Los Angeles telephone number (213) 892-5630 to discuss any steps necessary to place the application in condition for allowance.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing Docket No. 393032044100.

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